Art. II.—*Grass Tree.* By Charles W. Ligar, Esq., Surveyor General of Victoria.

[Read 12th March, 1866.]

Mr. President,—The useful character of the information and the value it may ultimately prove to the Australian colonies, will, I hope, plead effectually for the omission of any formal notice of introduction to the Society.

With your permission, I beg to lay on the table specimens of the hitherto much neglected Grass Tree, or *Xanthorea.* Among them you will find a part of the outer husk or covering in its natural state, and small blocks of the gum prepared from the same.

The saucer contains the brilliant dark red varnish produced from it, while the two pieces of cedar-wood display its power as a varnish in adding lustre to cabinet work, giving a rich mahogany colour, most pleasing to the eye.

The two small bottles contain the yellow dye extracted by nitric acid, and called pieric acid. The bottle containing the dark semifluid mass is sugar, obtained from the heart or kernel of the tree ; and last but not least in importance, the two bottles which contain the colourless fluid, represent the spirit distilled therefrom. These articles speak for themselves, but in order to give an idea of their commercial value, I append statements from men well able to judge, and for which, and the specimens, I am indebted to Messrs. Strachan and Smith, of this city.

These gentlemen have erected at St. Ronan's, about sixteen miles south of Colac, suitable buildings, and it is in contemplation to introduce machinery for prosecuting the work.

It is computed that there is a sufficient number of these trees in the immediate vicinity of St. Ronan's, to supply five hundred plants a week for the next ten years.

The whole of the tree is utilised. The outer rind or husk is composed chiefly of gum, with a small admixture of woody fibre. The interior or kernel is about ten inches in length, by about six inches in diameter.

The first operation in the manufacture is to take off the outer husk, which is bruised and pounded, then placed on shaking tables and a copious supply of water allowed to run over it. The vegetable matter then washes away, leaving the pure gum. The trees usually weigh from eighty-four to

one hundred and twelve pounds. About one-fourth is pure gum. Trees growing in the neighbourhood of Queenscliff and other portions of the country where the soil is sandy, are said not to yield much gum.

The gum is said to have a commercial value in Melbourne of £30 per ton, which price has been offered by the oil and colour dealers. They purpose making varnish with it.

The gum is dissolved in spirits of wine, which as you perceive, is also a product of the tree. It is considered to be a very superior varnish, having a good body, great adhesive properties, is a rapid drier, and has, as I remarked before, a rich colour.

The gum is extracted at a comparatively small cost, so much so that it has been found it can be manufactured, carted, and shipped to England for £6 per ton.

The interior, or pith of the tree, is broken up. It is then subjected to hydraulic pressure, when a copious flow of the saccharine juice takes place. About twenty gallons to the ton are obtained. On distillation the twenty gallons of raw juice yield four gallons of proof spirits, worth at the lowest computation three shillings per gallon.

The gum, I have heard, has been known in the English market for some years, where a little of it has found its way from Sydney. It is there called "Black Boy Gum." It has been exported in a raw state, mixed with vegetable matter, and is worth at home from £6 to £7 per ton, and is supposed to be used to adulterate other gums.

In thus introducing to your notice one of the humblest members of our great forest family, one that asks only the most barren spots of the earth for its home, I do so with the hope that years of neglect may be followed by a long period of careful attention. I would before leaving the subject, observe, that out of the humblest looking products of the earth, men's greatest successes have been derived, and that we have now presented before our eyes, products capable, not only of ornamenting our wood-work and colouring our textile fabrics, but of actually sustaining life. The weary traveller may now claim this child of the desert as his best friend, and with slight appliances and little loss of time, obtain that which will enable him to prosecute his journey in safety.

Whatever may be the result of the actual commercial value of this tree, there has been, I hope, sufficient information collected to induce many to try the manufacture. This novel

industry is protected by no patent, nor is it surrounded by any difficulties that I am aware of. The figures relating to quantities have been collected from the gentlemen above named, but whatever measure of success or disappointment may be the result, it cannot fail to be highly interesting to this Society to see such a hopeless looking tree turned to so many useful products, through the aid of science, while to the mind bent on inquiry after the good and the useful, these remarks may convey a lesson never to despair, nor pass over what appears trifling and valueless at first sight.

Art. III.—*Gems and Sapphires.* By the Rev. John J. Bleasdale, D.D.

[Read 12th March, 1866.]

Mr. President and Gentlemen,—I trust I shall be forgiven on this occasion, as I have been on many preceding, for taking up a few minutes of the public time without having given previous notice. It is not always in my power to give notice of any little matter I may have to exhibit; and I prefer rather not to give notice than do so, and then disappoint the meeting. On the present occasion it was utterly out of my power to do so. The matter which I wish to bring before you to-night will not detain you many minutes; and that which forms the substance of it will, I trust, interest some and please all.

The very harmless and, to myself, pleasing recreation of collecting and collating the gem stones of our favoured country, has put, and will no doubt, from time to time, continue to put, in my way objects not unworthy of being recorded among the labours of this Society.

To-night I have in my power to bring under your notice a magnificent specimen of the green Sapphire (the Oriental Emerald), one of the very rarest of all gem minerals—so exceedingly rare, that Harry Emanuel, in his work just published, 1865, says of it: "The green variety (of Sapphire), or the Oriental Emerald, is the rarest of all gems, and is scarcely ever seen. In the whole course of my experience, I have only met with one specimen." Harry Emanuel is, of all living men, about the most likely to have met with specimens, if they were to be found in the trade at all.